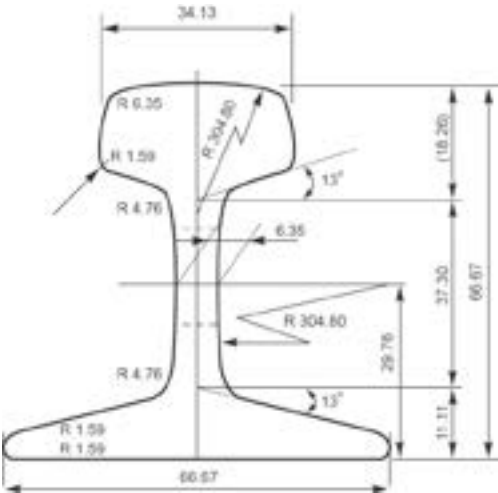
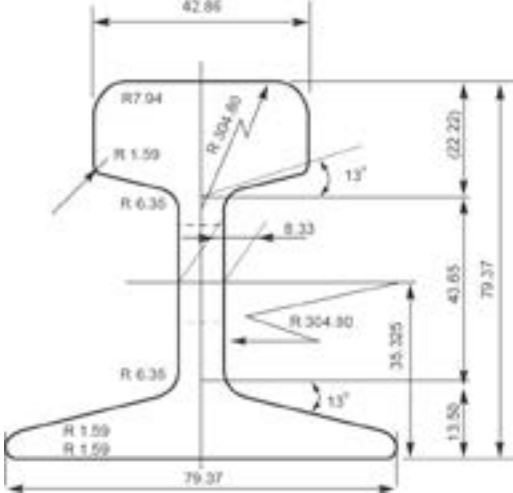


RAILS

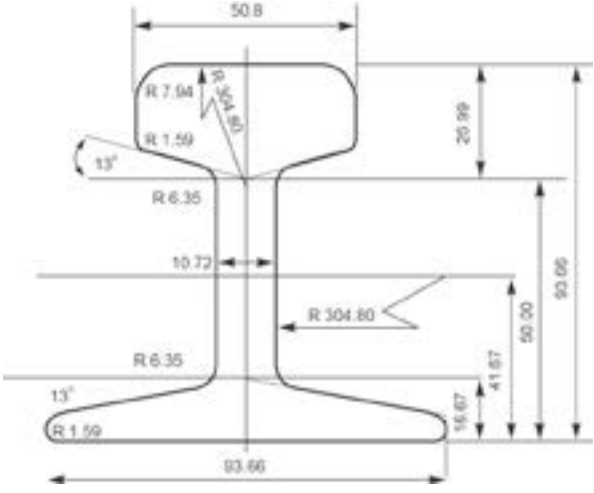
Light Rails (JIS E 1103) 92
 British Standard Light Rail Sections 93



10KG RAIL



15KG RAIL



22KG RAIL

RAILS

LIGHT RAILS IN ACCORDANCE TO JIS E 1103

Class	Notation	Note
		Calculated Mass (kg/ m)
6 kg rail	6	5.98
9 kg rail	9	8.94
10 kg rail	10	10.1
12 kg rail	12	12.2
15 kg rail	15	15.2
22 kg rail	22	22.3

CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES

Class	Chemical Composition %				
	C	Si	Mn	P	S
6kg, 9kg, 10kg, 12kg, and 15kg rails	0.40 TO 0.60	0.40 max	0.50 TO 0.90	0.045 max	0.050 max
22kg rail	0.45 TO 0.65				

MECHANICAL PROPERTIES

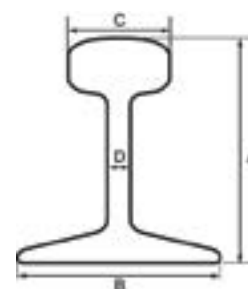
Class	Tensile Strength kgf / mm ² {N/mm ² }	Elongation %
6kg, 9kg, 10kg, 12kg, and 15kg rails	58 {569} min	12 min
22kg rail	65 {637} min	10 min

STANDARD LENGTHS

Class	Standard Length	Remark
		Short Rails
6 kg rail	5.5	5
9 kg rail		4.5
10 kg rail		
12 kg rail	10.0	9
15 kg rail		8
		7
22 kg rail		6

RAILS

BRITISH STANDARD LIGHT RAIL SECTIONS



		BS 20M	BS 30M	BS 35M	BS 35R	BS 40	S 10	S 14	S 18	S 20
Head Crown	Single Radius 5"	•	•	•	0"	•				
	Single Radius mm				(127)		140	160	180	200
Gauge Corner	Radius 5/16"	1/4"	•	•	•	23/64"				
	Radius mm						6	8	8	9
Head Width	Parallel	•	•	•	•	•	•	•	•	•
Upper Fishing	Taper 1:4	•	•	•	1:03	•	•	•	•	•
Upper Fillet	Radius 3/16"	•	•	•	•	9/32"				
	Radius mm						5	6	6	7
Web	Fully Parallel Web	•	•	•	•	•	•	•	•	•
	Upper Web Parallel				•					
	Lower Web Radius 7 1/2"				•					
Lower Fillet	Radius 1/4"	3/16"	•	•	•	17/64"				
	Radius mm						5	6	6	7
Lower Fishing	Taper 1:4	•	•	•	1:06	•	•	•	•	•
Rail Section										
		BS 20M	BS 30M	BS 35M	BS 35R	BS 40	S 10	S 14	S 18	S 20
Rail Height A	in	2 9/16	2 31/32	3 3/16	3 3/8	3 15/32	70	80	90	100
	mm	65.09	75.41	80.96	85.73	88.11				
Foot Width B	in	2 3/16	2 3/4	3	3 1/4	3 11/64	58	70	82	82
	mm	55.56	69.85	76.2	82.55	80.57				
Head Width C	in	1 7/32	1 1/2	1 11/16	1 3/4	1 51/64	32	38	43	44
	mm	30.96	38.1	42.86	44.45	45.64				
Min Web Thickness D	in	19/64	23/64	23/64	21/64	31/64	6	9	10	10
	mm	6.5	9.13	9.13	8.33	12.3				
Head Area	in ²	0.82	1.20	1.60	16.00	1.78				
	mm ²	530	777	1030	1031	1149	593	707	934	1018
Web Area	in ²	0.37	0.56	0.57	0.65	0.90				
	mm ²	239	359	369	422	579	241	428	553	604
Foot Area	in ²	0.76	1.16	1.26	1.18	1.25				
	mm ²	490	748	816	7.64	806	437	637	824	904
Total Area	in ²	1.95	2.92	3.43	3.44	3.93				
	mm ²	1259	1883	22.15	2216	2534	1272	1771	2312	2526
Section Weight	lb/yd	19.91	29.80	35.05	35.07	40.10				
	kg/m	9.88	14.79	17.39	17.4	19.89	9.98	13.9	18.15	19.81
Moment of Inertia Ixx	in ⁴	1.70	3.34	4.53	5.34	5.91				
	cm ⁴	71	139	188	222	2.46	85	152	271	343
Section Modulus Zxx	in ³	1.26	2.10	2.76	3.12	3.39				
	cm ³	21	34	45	51	56	24	36	56	66
Distance of Neutral Axis from Top of Rail	in	1.35	1.59	1.64	1.71	1.74				
	mm	34.34	40.37	41.61	43.48	44.26	34.92	41.77	48.33	52.01
Moment of Inertia Iyy	in ⁴	0.34	0.79	1.08	1.21	1.22				
	cm ⁴	14	33	45	50	51	14	27	47	53
Section Modulus Zyy	in ³	0.31	0.57	0.72	0.74	0.77				
	cm ³	5	9	12	12	13	5	8	12	13